

523
B58

ADDRESS:

DELIVERED BEFORE THE

Philadelphia Society for Promoting Agriculture,

ON ITS

SEVENTY-FIFTH ANNIVERSARY,

FEBRUARY 11th, 1860.

BY THE PRESIDENT,

CRAIG BIDDLE.

PRINTED BY ORDER OF THE SOCIETY.

PHILADELPHIA:

KING & BAIRD, PRINTERS, No. 607 Sansom Street.

1860.

Exp.



ADDRESS:

DELIVERED BEFORE THE

Philadelphia Society for Promoting Agriculture,

ON ITS

SEVENTY-FIFTH ANNIVERSARY,

14 /
FEBRUARY 11th, 1860.

BY THE PRESIDENT,
CRAIG ✓ BIDDLE.
"

PRINTED BY ORDER OF THE SOCIETY.

PHILADELPHIA:

KING & BAIRD, PRINTERS, No. 607 SANSON STREET.

b1R

1860.



12-11312

S523

B58

At a meeting of the "Philadelphia Society, for Promoting Agriculture," held February 11th, 1860,

In accordance with a resolution of the Society, an Address was delivered by the President, CRAIG BIDDLE, Esq.

Whereupon, *Resolved*, unanimously, That the thanks of the Society be and they are hereby tendered to the President, for his excellent and eloquent Address, and that he be requested to furnish a copy of the same for publication.

(From the Minutes.)

ALFRED L. KENNEDY,

Secretary.

Address.

I FEEL that I violate no confidence, and am guilty of no indiscretion in publicly mentioning that our Society is, to-day, seventy-five years of age. Corporations have no feeling upon this point. Even in the lives of individuals, there is a period when all sensitiveness on the subject is at an end, and it becomes a matter of pride to be able to recount the occurrences of almost a century, and to describe the actors in its varied scenes. And when the recollections of that period recall no act of the association or individual which reflection condemns, but much that coming time will applaud, there certainly can be no juster subject of pride, and no more worthy topic of self gratulation. We are the oldest Agricultural Society in America. I feel, therefore, that I may upon this day revert to a few of the incidents of our past career, and endeavor to stimulate our members to renewed exertion, by holding up to their contemplation the meritorious and patriotic services of their predecessors. I say patriotic services, for our Society, as you know, was not formed as a guild, by parties interested to promote their trade, but its originators were public spirited men from every walk of life, hoping by its operation to benefit themselves only in common with their fellow countrymen. Their names are so familiar to every American ear, that the mere mention of them brings before us a crowd of associations, connecting

them with almost every part of the history of our country. Colonel George Morgan, General John Cadwalader, Colonel John Nixon, distinguished in her military service; Robert Morris, Thomas Willing, Samuel Meredith, eminent as merchants and patriots; James Wilson, Edward Shippen, Richard Peters, ornaments of the bench and bar; Benjamin Rush, John Jones, Adam Kuhn, George Logan, heads of the medical profession; and George Clymer, Henry Hill, Philemon Dickinson, Samuel Vaughan, Tench Francis, Charles Thompson, Richard Wells, Samuel Powel, Lambert Cadwalader, John B. Bordley, all distinguished in either local or national concerns.

Such were the twenty-three men who met together in Philadelphia, on the 11th of February, 1785, in Water street, then the head-quarters of business and fashion, to form "The Philadelphia Society for the Promotion of Agriculture." In the minutes of the Society it is interesting to trace the energy and intelligence with which these soldiers, lawyers, and earnest men of various callings, went at their work. At the very next meeting, a code of by-laws was formed, which, with trifling alterations, now governs the Society. On the fifth of April, not two months afterwards, we find presented a list of premiums to be offered, which, whether we regard the subjects, or the amount of the awards, are alike remarkable and praiseworthy.

1. For the best experiment made of a course of crops, either large or small, on not less than four acres, agreeable to the principles of the English mode of farming, a piece of plate valued at \$200; for the experiment next in merit, \$100. Certificates to be produced by the 20th December, 1790.

2. The importance of complete farm or fold yards, for sheltering and folding cattle, and of a preferable mode of conducting the same for procuring great quantities of compost, or mixed dung or manure. A gold medal. For the second best, a silver medal.

3. For the best method of counteracting the injurious effects of frost, in heaving or spewing up the ground and exposing roots of wheat to the drying winds of spring. A gold and silver medal.

Also, gold and silver medals for

4. The best method of raising hogs from the pig in pens or sties.

5. The best method of recovering worn-out fields.

6. The best experiment in trench ploughing—not less than ten inches deep.

7. The best field of clover.

8. The greatest quantity and variety of good manure collected in one year, and best managed, from materials common to most farms.

9. The best information, founded in actual experience, for preventing damages to crops by insects.

10. The best comparative experiments on the culture of wheat, by sowing it, in the common broad-cast way, by drilling it, and by setting the grain, with a machine, equidistant; the quantities of seed and produce, proportioned to the ground, being noticed.

11. An account of a vegetable food that may be well procured and preserved, and that best increases milk in cows in March and April, founded in experience.

12. The best method of raising the white and other thorn from seed on clay ground.

13. The greatest quantity of ground well fenced in locust trees or poles.

Thus the very first premiums of the Society consisted of three hundred dollars, in money or plate, and twelve gold and twelve silver medals. The money for this, let it not be forgotten, came out of the pockets of the members themselves, for the days of cattle shows had not then been inaugurated, and trotting horses and fire-engines had not as yet contributed their valuable attractions to the cause of Agriculture. The responses received unfortunately do not seem to have set at rest the questions they respectively discussed, for we might, to-morrow, offer the same prizes, and probably receive as various replies.

In fact, so slow is the progress of agricultural science, that most of the subjects are the standard topics of discussion in the numerous agricultural periodicals of the present day.

In 1789 the Society consisted of one hundred and thirty-three resident and one hundred and forty-six non-resident members, and its numbers were constantly swelled with names of distinction in every walk of life, not only from Pennsylvania but from all parts of the United States. Most of them were active members, each contributing what he could of information or experience to the common fund; and the memoirs of the Society are full of the most valuable essays, experiments and suggestions. Judge Peters, one of the few practical farmers among its early members, appears to have been untiring, and, both by precept and example, never ceased to urge forward everything of practical agricultural interest.

One of the first efforts of the Society was, both by correspondence, and by obtaining a general law of our State for their encouragement, to stimulate the forma-

tion of kindred associations. This project was attended with eminent success; and the Patent Office Report of 1858 informs us that there are now in actual existence in the United States seven hundred and ninety-nine Agricultural Societies, forty-three Horticultural, and seventy Agricultural and Mechanical Societies, making a total of nine hundred and twelve; while in Pennsylvania alone, there are sixty-five Agricultural, three Horticultural, and three Agricultural and Mechanical Societies, in all seventy-one.

At a meeting of the Society in January, 1794, I find Mr. Bordley, Mr. George Clymer, Mr. Peters and Mr. Timothy Pickering, appointed "a Committee to prepare the outlines of a plan for establishing a State Society for the Promotion of Agriculture; connecting with it the education of youth in the knowledge of that most important art, while they are acquiring other useful knowledge, suitable for the agricultural citizens of the State." On the 28th of the same month, the Committee reported the draft of a petition to the Legislature for an Act of Incorporation, together with an elaborate plan for effecting the end in view. It has been reserved to our day to see both suggestions carried out in "The Pennsylvania State Society," and in the "Farmers' High School," now in successful operation in Centre County.

On the latter institution, I look with more hopefulness than upon any public plan yet suggested for the promotion of Agriculture. Aside from the benefits to be derived from it, as a place of education for youth in practical agriculture, it can be made to do for us, in connection with the Board proposed by our Society, more than any department of the State government. It can collect and diffuse information, try all new pro

cesses, plants and manures, and serve generally as an agricultural centre. I trust that agriculturalists throughout the State, will not permit so hopeful a project to fail for want of funds; and that our Legislature will make their past contributions doubly valuable by another appropriation sufficiently large to place the institution in a position of the most extended usefulness.

“The promotion of veterinary knowledge and instruction, both scientific and practical,” was another cherished object of the Society. And we find that distinguished physician, Dr. Benjamin Rush, lending his valuable influence for its promotion, and delivering, on the 2d of November, 1807, a discourse before the Society on that subject. He says: “I have lived to see the Medical School of Philadelphia emerge from small beginnings, and gradually advance to its present position, but I am not yet satisfied with its prosperity and fame, nor shall I be so, until I see the veterinary science taught in our University.” Few of his profession seem so willing, in later days, to acknowledge its claims, or to repay the obligations of their science to the study of the anatomy, physiology, and diseases of domestic animals.

Dr. James Mease, in 1813, made another effort to engage public attention to this subject, by an able address, but without success. This is still a want among us, but the subject has lately received a new impulse; a Veterinary College has been established, and should it receive from the Society and the public that encouragement which such an institution eminently merits, there is no doubt that the disadvantage under which this branch of medical science has labored, will soon be removed. In the diseases of horses we have some practitioners, but in

those of other domestic animals, more difficult of treatment, few, if any. In these days, when the price of bulls and rams is equal to that formerly paid only for race horses, and when fineness of breeding often produces delicacy of constitution, the want is severely felt. The opinions of a college of reputation would also tend to settle that troublesome branch of litigation, horse disputes, and their certificate would probably take the place of that worthless reliance, a "warranty," which is generally conclusive of nothing but the insolvency of the person who gives it.

A project of the Society, in which they were more successful, was the construction of a bridge over the Schuylkill river. An enterprise not exactly of an agricultural character, to common apprehension, but the importance of which they very early perceived. They fully appreciated the fact, that anything which would tend to bring the producer and consumer together must necessarily be beneficial to both. It was the first undertaking of the kind in America, over a deep tide water, and was the only covered bridge of any size in the world. The minor difficulties of all kinds to be obviated, were without number, but they all yielded to the energy of Judge Peters, then our President. A company was incorporated, of which he was at the head, and the bridge was finally perfected, and opened to the public in 1805. Incredible as it may appear at the present day, it was not only built without municipal, State, or County aid, but the Company actually paid the city \$40,000 for the site on which it was erected. It was built, too, without bonds, mortgages, or preferred stock; and consequently, in after years, when it came to be transferred to the City, there was no doubt as to

its ownership. There was, I believe, a small "floating debt," which, in the erection of a structure of this kind, may perhaps be excusable, but it was soon paid off in full. It is not easy, in our day, to realize all the difficulties of such an undertaking. Capital was scarce, skill and experience rare, and prejudice, as usual, active. It will help us, however, to appreciate these obstacles, when we consider that at the present time, with all our ingenious devices for building without money, a similar structure cannot be erected over the same stream, at the terminus of the main thoroughfare of a city of over half a million of inhabitants, although, the city, the citizens, and even a passenger railway company desire it.

Probably, however, the greatest boon which our Society has been enabled to bestow upon the country, was the introduction of gypsum, or as it was then called, from the locality from whence it came, plaster of Paris.

It is said first to have been used for agricultural purposes, at least in modern times, by Mr. Meyer, a clergyman, in Germany, in the year 1768. Its introduction into the United States is thus, in 1807, described by Judge Peters: "The first time I saw the agricultural effects of the gypsum, was several years before the commencement of our revolutionary war, on a city lot, belonging to, or occupied by Mr. Jacob Barge, on the commons of Philadelphia. He was the first person who applied the gypsum in America to agricultural purposes; but on a small scale. He showed me a letter in German, from one who had gone over from Pennsylvania to Germany for redemptioners. The writer sent over a specimen of the gypsum, and desired

Mr. Barge to seek for land in this, then Province, in which it could be found. It was probably to assist in this object, among other considerations, that I was taken into a secret then utterly unknown to others in this country. Burr-mill stone makers and stucco plasterers were the only persons acquainted with any of its uses. From one of the former I procured a bushel, which enabled me to begin my agricultural experiments, and I faithfully pursued and extended them as I obtained more means." It was some time before this mineral was found in the United States, and farmers relied entirely upon importations from Europe and Nova Scotia. Those from the latter place into the port of Philadelphia, soon amounted to fourteen thousand tons annually. This was prior to its use in England and France. It was important, not because it was the means of restoring sulphuric acid and lime to the soil, but because it laid the foundation of all good husbandry among us. Its special function was to promote the growth of clover, by which animals could be supported, manure made, and the farmer thus enabled to produce any desired crop. Its introduction created as great an excitement as that of guano, and were guano used for the same wise purposes it would effect as great a good. It is its mistaken employment, as a means of enabling the farmer to take from his exhausted land its remaining sources of fertility in grain crops, that has excited prejudice against its use. Before the introduction of plaster, irrigated meadows, were deemed essential to a farm; upon them alone could stock be raised. But plaster and clover changed all this and afforded abundant supplies for winter and summer food for all domestic animals. By the manure thus obtained, ample means

were afforded of renewing the original strength of the soil. For all the experience of England and the science of Belgium, results but in this—that there is no mode of increasing fertility equal to the consumption of the produce of the land on the land itself.

I have endeavored thus briefly to recall to your recollection, some of the past efforts of the Society in the cause of Agriculture. Although time and circumstances have altered its position, and thrown upon other associations the duties it once assumed, never, since its inception, had it a better opportunity of being useful to the public than now. It is composed, as it always has been, not solely of practical cultivators of the soil, but of men of all professions, who, in the quaint language of its early history, have “a propensity” to agriculture. It has been well said “that practical husbandry, depends for its improvement and prosperity, more on science and the acquirements of well-educated and public-spirited men who devote a portion of their means, time and talents to the principles of this first of arts, than on the limited experience and uninstructed examples of merely practical husbandmen.” Jethro Trull, the father of modern husbandry, was a lawyer and the most prolific and agreeable of writers on Agriculture, Arthur Young, commenced life as a merchant. At the present day, the man who has spent most in experiments on all points of agriculture, requiring practical determination, is Mr. Mechi, a London tradesman and alderman. He starts with the assertion “that whatever does not pay in agriculture is not an improvement,” and tests all his operations by that stern standard, the balance-sheet. This he publishes, and thus gives a warning or affords an example to his neighbors. This is what we

want here. You have the means, the intelligence, and the business capacity. You are not fettered by the prejudice of lives of routine, but are ready at once, not only to appreciate, but to follow the dictates of experience modified by science. What our agriculturalists need, is example not precept. They cannot afford to hazard a crop, in attempting to prove the soundness of a theory. Prove the superiority of your process practically, and you will have no lack of followers. The country is alive to the subject, and if false teaching is not allowed to bewilder practical men until in disgust they return to antiquated methods, the improvements in Agriculture will be marked and rapid. The fact has at last gone home to the cultivator of the soil, that to live, he must increase not his farm, but the yield of his farm. Land is at last dearer than labor and manure, and these it is that he must buy if he hopes for profit. This is the point where rude cultivation ends, and practice begins to accept the aid of science. In your first efforts to introduce improvements you may be unsuccessful, but remember that in Agriculture a well-established failure is only second to a success and he who expects to become a teacher, must not grumble at the incidents of his apprenticeship.

The crying need of our agriculture is capital; without that, none of its processes can be carried on in the right way or at the right time. In every other business of life this is fully recognized; it is the first thought of the merchant, mechanic or manufacturer. When individual means are wanting, combination is resorted to; and the corporations which flood our country are but iterations of the fact, that capital is the keystone of success in every undertaking. It is essential not only

to the profitable cultivation of poor lands, but especially necessary for the development of the richest. An eminent political economist of our own day and city was the first to correct the misapprehension on this subject, and to show that the best lands of a country are not exhausted first, but that they are cultivated last. The emigrant takes the land most easy of cultivation and leaves the soil whose richness covers its surface with timber or whose wealth is concealed by floods, to the man of science and capital who succeeds him.

In encouraging the expenditure of capital upon land as a profitable investment, I do not desire to delude the citizen with the idea that by building a town residence in a ten-acre field, instead of on a town lot, he can live in it and receive six per cent. upon his outlay. I do not wish to intimate that the weekly mowing of a lawn, or the daily hoeing of gravel walks, are operations attended with much pecuniary advantage. This, it is true, is spending capital on land, but its remuneration is not in money. Let us avoid confounding country seats with farms, or expenditure for pleasure with those for profit. By not keeping this distinction in view we are often rendered dissatisfied and Agriculture meets with unmerited reproach.

The expenditure must be applied to remedy the defects, and to renew or retain the fertility of your soil. As an example of the first, I would mention for instance *Drainage*.

It is not necessary as they have lately done in Holland, to drain a lake thirty-three miles in circumference to obtain 40,000 acres of arable land,—we have quite enough already. I do not allude to the drainage of overflowed lands, although fortunes are awaiting the

men who will undertake this in the environs of our own city, but it is the drainage of what are technically called "high lands," lands never overflowed. This has been made a matter of national importance in England, and it is said to be the only instance of successful government interference in matters of private interest. By a series of acts, commencing in 1840, persons having limited interests in land are allowed to encumber them, to a certain amount, for the purpose of drainage, and are authorized to obtain the money therefor from the public coffers. If, for instance, a person owning only a life interest in land, desires to drain it, he can borrow the money on mortgage, arranging the payments in such a way, as that it may be entirely paid off in from twenty-five to fifty years. In case of his death during that period, successive occupiers of the land are obliged to continue the payments till the mortgage is satisfied; so much is the value of the land supposed to be increased for all the parties interested in it. These acts have been already taken advantage of to the extent of twenty millions of dollars, in addition to the vast sums expended from private sources. By drainage, they mean drainage with pipes or tiles, which experience proves is the only thorough or permanent method. Whether they should be deep and far apart, or shallow and frequent, have been subjects of much discussion. The prevailing method, that introduced by Mr. Smith of Deanston, is from three to four feet deep and from fifteen to sixty feet apart. What is the proper depth or distance for us, is for experience to determine.

The effects which drainage produces, are precisely those which our American wants require. Our two great enemies are excessive cold and excessive heat.

Both fatal to shallow cultivation. The first freezing out or winter killing our grain when young, and the last disappointing us of a crop when almost ready for the harvest. The few inches of surface soil is saturated with water, the frost comes, the soil is thrown up into honey combs and the roots with it, or else it is baked with the sun, and the roots striving in vain to strike into the impenetrable soil beneath, are dried up. Mr. John Johnson of New York, who had for some years been experimenting very thoroughly with drainage, having in 1851, sixteen miles in operation, and who had on drained clay raised the largest crop of corn ever produced in Seneca County, testified that this freezing out was entirely cured. That on his clay soil "not a square foot of clover froze out;" and though, before, "many acres of wheat were lost on the upland from that cause and none would grow in the lowland, now there is no loss at all." The water is not retained by the hard pan upon which the plough year after year slides but sinks below the roots.

Then as to drought. It is really incredible from what a depth the roots will draw moisture, where they are at full liberty to range. Mr. Cobbett asserted that lucerne would send its roots thirty feet into a dry bottom, and Mr. Mechi boasts of parsnips thirteen feet six inches long. Making every allowance for exceptional cases, the roots of nearly all plants will readily run from three to four feet deep, in ground drained and subsoiled. The same process which facilitates the passage of water, pulverisation, increases the capacity of the soil to retain moisture. A thoroughly pulverized soil will retain more water than a compact one, just as a sponge with its pores open will hold more than when

tightly compressed. There is no fear of making your land too dry ; you cannot drain out of land any water that it is advisable should be retained. Fill a flower-pot with earth, and endeavor to drain as much water out of it, as you pour into it. You will find that it cannot be done, and that all that you withdraw is the excess over saturation and is merely what would be stagnant and therefore injurious. The different soils have been found by experiment to have the capacity of holding water in the following ratio :

One hundred pounds of soil will hold by attraction as follows:

Sand	25	pounds of water,
Loamy soil	40	“ “
Clay loam	50	“ “
Pure clay	70	“ “

The returns to the New York Agricultural Society, after the great drought of 1854, were almost unanimous, that drained land had stood the drought better than the undrained. The other effects of drainage are valuable to farmers everywhere. It allows pulverisation ; prevents surface washing, enables you to plough earlier in the spring and later in the fall, supplies air to the roots and improves the quality of the crops. In no country do they trust so much to the weather as here. How many farmers go to all the expense of ploughing, manuring and seeding a field with the full conviction, that if the season is wet, they will obtain no crop ? With how many is it doubtful whether they will be able to plant in time for a favorable result. It is asserted by some, that all land is improved by draining, even that with a porous subsoil, but it is not as yet time for us to test this question ; let us devote ourselves to land which certainly requires it.

There may be some, a happy few, whose lands require no drainage, and who therefore can afford us no example in that matter. To these I would suggest another point, to which scientific culture can be turned with great profit. I mean an investigation of the best rotation of crops. Judged by the European standard, and by the light which chemistry has shed upon the subject, our present system is most vicious. Arthur Young says, "that there is no circumstance which so strongly distinguishes the knowledge of the present age, in the theory and practice of husbandry, in comparison with all former periods, as the right management of the crops cultivated on arable land. Compared with this, all other articles are of very little importance. Unless this part of the farmer's conduct be well understood, the greatest exertion and improvement in other branches of his business lose their effect." The first plan of cultivation was, as you know, to raise the same crop upon the same ground as long as it would produce it to a profit. Then, to move to another spot of ground and pursue the same course. When removals came to be matters of serious moment, the log-hut became a house and land rose in value. Farmers commenced treating their lands as they did their beasts of burden,—they worked it for a season, and then gave it what they called "a rest." And, in spite of the loss of time, it was found that a greater amount of grain was obtained, when a field was allowed to be uncultivated for one year, than when it was successively cropped for two. This system of naked fallows as it was called, was long in vogue every where. It was soon found, however, that the analogy with the beasts would not hold; for, although they would rest, the land would not, though the husbandman was will-

ing. It would not produce grain, but would produce weeds. It was then suggested, that as the land would produce something, it was evident that its fertility was only exhausted for the production of a certain species of plants, and that others of a different character might therefore be cultivated with profit. Clover was tried, and with the most marked success. The land which refused to raise two grain crops in succession, freely yielded one grain and one clover crop. Perfection was now supposed to be reached, we had the grain for ourselves and the grass for our cattle; the consumption of the one enabling us to manure the other. The land, however, rebelled against this, and became, as it was called, "clover sick," in other words, became exhausted of its fertility for clover. Other crops were then substituted, and the land yielded a satisfactory return. It was finally found that a certain interval, more or less long, must elapse before the same ground would produce the same crop, although intermediate crops of a different character might be safely introduced.

From the result of these observations, a system of rotation of crops has been established. This should be modified by soil, climate and situation, but the same general principles are every where applicable. Experience has taught us, that the more closely plants resemble one another, the less are they fitted to be planted in immediate succession. The more dissimilar the plants therefore, the better the rotation. You do not seem to change this law by the application of manure, although you apparently replace all the substances taken from the soil. In all countries, therefore, where agriculture is at all advanced, they alternate their grain

crops with root crops. They cultivate, ameliorate and shade their land, by peas, beans and broad-leaved vine crops. They follow a crop requiring large applications of manure, with one not so dependent on its application. Recognizing the truth of these principles, as we all do, what is our practice? Take, for instance, the "old York and Lancaster rotation," as good as any generally pursued. After a grass field has been mowed or pastured for two or three years, it is broken up and planted with Indian corn; this is succeeded by oats or barley, immediately after the harvesting of which, the ground is manured, ploughed, and sown with wheat and Timothy grass, upon which clover is sown in the spring. We have here three grain crops in immediate succession, followed by the most exhausting of all grass crops,—Timothy. The ameliorating crop, clover, has disappeared before the field is again ploughed, and we turn under not a clover sod, but a Timothy sod. Indian corn performs, it is true, some of the functions of a fallow crop, in its requirement of thorough cultivation, but the shading of the freshly exposed soil, and the deep piercing and opening of it by tuberos and tap-rooted plants, and the turning under of green crops, are all wanting. The rotation is liable to another objection. You manure your wheat with fresh manure, in every other country deemed improper, and you plant two other crops to grow with it. Every field, too, on the farm is put through the same course, no matter how great the variety of soil may be.

The rotation is undoubtedly a convenient one, and that wonderful plant Indian corn, performs so many and various functions, that we feel no need of a change. But is it the best for the land? if not, it is

not the best for the owner. The steady decrease of our wheat crops here and their constant increase in England would seem to indicate that it is not. It is well worthy of the most thorough investigation; and even if it should be found that a root crop is not as valuable as a grain crop, we must not forget, in our comparison, that it is not to be valued for itself alone, but for its beneficial effect upon the land and upon other crops.

In our country, the only one where chivalrous notions about women still prevail, we are debarred from their labor in the field, which is one reason why crops requiring to be hoed are so little cultivated. In the first English work on husbandry, published by Sir Anthony Fitzherbert, a judge and a farmer, in the year 1522, he says,—“It is the duty of the wife to winnow all manner of corn, to make malt, to wash and wring, to make hay, to shear corn, and in time of need to help her husband to fill the muckwain or dung cart; to drive the plough, to load corn, hay and such other, and to go a ride to market; to sell butter, cheese, milk, eggs, chickens, capons, hens, pigs, geese and all manner of corn.”

After she had got through this, I presume, although our author does not expressly say so, she had the rest of the day to herself. This is rather more than is required of an English woman at the present day, for Mr. Stephens, expressly in the last edition of his valuable work on the Farm, says,—“Turning dung is not cleanly work for women, their petticoats being apt to be much soiled in the trench by the dung upon both sides, although it is somewhat obviated by the plan which the Berwickshire women adopt of tying the bottom of their petticoats with the garter, just below the knee.” How

this would comport with the present style of dress, I do not feel competent to decide. Proper as our prejudices are, against the employment of women for any such purpose, there are many occupations about a farm, which would conduce more to their health, and infinitely more to their morals, than those in which they are often engaged in large cities. But there is little prospect of tempting female labor into the field here, for any purpose. I state this, however, with some diffidence, for so great is the progress of opinion in our country, that some female Convention may decide that hoeing turnips is one of their inalienable rights, of which the cruelty of man has deprived them, in which case it will, doubtless be asserted with becoming spirit.

There are various other points, upon which the members of our Society, might, with great advantage to the public, devote a portion of their time and means. Chemistry has done much for Agriculture, in explaining processes heretofore empirically conducted, but the great bar to its usefulness is the want of accurate and thorough experiments in the field. Not such experiments as those with which our Journals are often filled, which, overlooking weight, measure, and surrounding circumstances, give us a result which may be attributed to a dozen different causes, but such as will establish beyond peradventure one well-defined conclusion. Collect facts, and let chemistry explain them. Many distinguished chemists, from inability to obtain these field experiments, have endeavored to deduce systems of agriculture from experiments in their laboratories. These had soon to be abandoned, and, by their failure, did much injury to the cause of Science. A chemist can no more tell us, from the chemical constituents of

dead plants, the secrets of vegetable life than he can explain the vital functions of man by analyzing the contents of the catacombs of Egypt. An analysis of the soil of a small patch of ground, accompanied by personal inspection, may lead, in some cases, to useful suggestions. But that a chemist, by the analysis of six inches of the surface soil of a field, can afford any useful suggestions to its cultivator, is more, I think, than agriculturists should believe. The different constituents of different portions of the surface, the subsoil, the aspect, the former treatment, are all most material, and all unrepresented. The old Grecian who carried about a brick as a specimen of a house he wanted to sell, would not, certainly, be more absurd, than the man who should attempt to show the condition of his farm by the exhibition of five pounds of its soil. Let us treat Science fairly, let us confine ourselves to our department, which is observation, and let our reports be such as will stand the test of scientific examination. We may then hope, in our department, to share the benefits which Science has so largely afforded to all others.

We have been told, lately, that politicians are going to do something for Agriculture. A not very hopeful announcement, to my apprehension. It has heretofore escaped congressional treatment, and I trust sincerely it may now be able to survive it. What will be done about it, I am not bold enough to conjecture; but that it will be sufficiently talked about, I feel morally certain. To the farmer, whose vocation is work and not talk, and who is accustomed to the beautiful but silent operations of Nature, the accepted mode of conducting the public business must indeed seem marvellous. The whole talent of the country appears to have

degenerated into talk and endless disputation. Ward meetings, county conventions, legislative assemblies, congressional bodies, all fields for never-ending discussion. And then the unfortunate facilities for the dissemination of this frightful amount of palaver! Weekly presses, daily presses, hourly presses, stenographers and phonographers, all mad to publish this mass of so-called information, to the utter bewilderment of the public. The post-office reports a deficiency of six million nine hundred and sixty-six thousand and nine dollars on account of its onerous labors, and we are to be still more taxed that documents may carry discontent to the remotest borders of the Republic, by awakening the people to the consciousness of wrongs never before felt.

Carlyle, in an essay published in England, some years ago, so graphically describes this condition of affairs, that I cannot refrain from quoting it. "Probably," he says, "there is not a more distracted phantasm than your common-place eloquent speaker, as he is found on platforms, in parliaments, on Kentucky stumps, at tavern dinners, in windy, empty, insincere times like ours. The excellent 'stump orator,' as our admiring Yankee friends define him, he who in any concurrent set of circumstances can start forth, mount upon his stump, his rostrum, Tribune, place in parliament or other ready elevation, and pour forth from him his appropriate 'excellent speech,' his interpretation of the said circumstances, in such manner as poor windy mortals around him shall cry bravo to—he is not an artist I can much admire, as matters go. Alas! he is, in general, merely the windiest mortal of them all; and is admired for being so, into the bargain.

Not a windy blockhead there, who kept silent, but is better off than this excellent stump orator. Better off for a great many reasons; for this reason, were there no other: the silent one is *not* admired; the silent one suspects, partly admits that he is a kind of blockhead, from which salutary self-knowledge the excellent stump orator is debarred. By stump orator and constitutional palaver, however perfected, my hopes of recovery have long since vanished. Not by them, I should imagine, but by something far the reverse of them, shall we return to truth and God."

It is for you, then—men having a stake in the country—men removed from the turmoil and exacerbation of public life, and who, by being removed from them, can best estimate the effect of public measures—"to take care that the Republic receives no detriment." You cannot put off the obligations of freemen in your retirements. The burden of government is upon each and all of us, and although we may shrink from its duties, we cannot evade its responsibilities.

In all the great emergencies of our country, and they have been many, she has been prolific in great men: men fitted for the field, the Senate, or the Cabinet, soldiers, patriots, statesmen,—in which she is now so lamentably deficient, that I have lately thought that she like her soil begins to suffer from exhaustion and is now lying in "fallow;" one of those old-fashioned fallows, when, not being occupied by useful plants, noxious weeds are in full luxuriance. Look around us! In every field you can see their gorgeous and supple forms bowing and waving before every breeze of popular favor; but when an honest blast of indignation would reach them, lying prone to the earth

and almost ignoring their own existence. The storm over, they again rise up, tenacious as ever of the place from which they draw sustenance and support.

There is but one remedy for all this—an agricultural one—*plough them under* ; and the lowly virtues of honesty and integrity will again show their heads, and the face of the land be gladdened.



LIBRARY OF CONGRESS



0 002 744 109 9